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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/430,192	10/29/1999	MICHAEL B. RAYNHAM	10981963-1	6908

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LEGAL DEPARTMENT 20BN
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EXAMINER

MEONSKE, TONIA L

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 11/28/2003

16

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

Office Action Summary

Application No.

09/430,192

Applicant(s)

RAYNHAM ET AL.

Examiner

Tonia L Meonske

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(A) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirthlin et al., in view of Que, previously cited as a prior art reference in paper number 5 mailed on April 24, 2002, and Page.
3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo, US Patent 6,047,198, previously cited as a prior art reference in paper number 5 mailed on April 24, 2002, in view of Wirthlin et al., Que, previously cited as a prior art reference in paper number 5 mailed on April 24, 2002, and Page.
4. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirthlin et al., in view of Que, previously cited as a prior art reference in paper number 5 mailed on April 24, 2002, and Page.
5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo, US Patent 6,047,198, previously cited as a prior art reference in paper number 5 mailed on April 24, 2002, in view of Wirthlin et al. and Page.
6. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wirthlin et al., in view of Que, previously cited as a prior art reference in paper number 5 mailed on April 24, 2002, and Page.

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7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huffener, US Patent 5,382,891 in view of Wirthlin et al.

8. The rejections are respectfully maintained and incorporated by reference as set forth in the last office action, paper number 12, mailed on May 5, 2003.

Response to Arguments

9. Applicant's arguments filed September 11, 2003 have been fully considered but they are not persuasive.

10. On the first and second page of the remarks, Applicant argues in essence:

“the statement “Using the complex programmable logic device/micro-controller IC system would have allowed for less glue logic such that LCD control would have been part of the overall system control, or CPU, rather than external circuitry” is self-contradictory, and doesn't make much sense to Applicants' representative. The claimed invention is a subsystem controller, not a CPU.”

However, the claim language does not exclude the subsystem controller from also being a CPU. Claimed subject matter, not the specification, is the measure of invention.

Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11,15 (CCPA 1978).

Furthermore, Sudo, in combination with Wirthlin, Que, and Page have taught the CPU, or subsystem controller, provides control for the subsystem. In the case of Sudo the subsystem being controlled by the subsystem controller, or the CPU, is an LCD, Figure 4, element 5. Therefore this argument is moot.

11. On the second page of the remarks, Applicant argues in essence:

"the statement 'The bus interface as taught by Huffener must be by way of I²C, or inter-integrated circuit buses such that any bus connecting 2 integrated circuits is an I²C bus' is incorrect."

However, it appears that applicant is trying to use an industry standard, I²C, in the claims.

If this is the case, then claim 4 is not proper as industry standards are improper claim limitations. Examiner is not reading the I²C limitation as the industry accepted standard as this would result in an improper claim limitation. Examiner is instead applying the most reasonable interpretation of "I²C bus interface" as a bus between two integrated circuits. Therefore this argument is moot.

12. On the second page of the remarks, Applicant argues with regard to Wirthlin in essence:

"The Examiner states in the Office Action on page 3, in section 6, 'Wirthlin et al. have also not taught that the subsystem controller is implemented as a single integrated circuit.' As discussed in previous responses, Applicants are clearly and ambiguously claiming a 'subsystem controller implemented as a single integrated circuit for control of a device or subsystem within an electronic device system having system processing components.'"

However, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the fact that Wirthlin may have not taught the subsystem controller is implemented as a single integrated circuit, is irrelevant as this is an attack on the reference individually. The rejection to claim 1 is unpatentable over Wirthlin, in view of Que and Page. Page has been cited for teaching the concept of combining elements in an integrated circuit in order to speed up communication and reduce the number of parts. See the rejection to claim 1. Therefore this argument is moot.

13. On the second, third, fifth page of the remarks, Applicant argues in essence:

"However, Applicants have already discussed a range of subsystem controller implementations in the current application. Wirthlin adds nothing new. Wirthlin describes an approach fully comprehended within the above description of existing subsystem controller implementations. ... Sudo, like Wirthlin, adds nothing new to the discussion that was not already either explicitly states in the background of the invention section of the current application, or understood by those familiar with computer systems and computer system architecture."

However, the fact that Applicant may have disclosed in the background concepts in a reference that is applied against the claims is irrelevant. The reference reads on the claims as worded. Claimed subject matter, not the specification, is the measure of invention. Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11,15 (CCPA 1978). Therefore this argument is moot.

14. On the fourth page of the remarks, Applicant argues with regard to Wirthlin and Sudo in essence:

"Were an Artisan to do this, the Artisan would have replaced Sudo's original CPU with some kind of hybrid processor, but the hybrid processor would still not constitute a subsystem controller, as clearly defined in the current application and in claim 1."

However, the "hybrid processor" does constitute a subsystem controller, as claimed in claim 1, which is clearly defined in the rejection to claim 1 and in the arguments above. Sudo, in combination with Wirthlin, Que, and Page have taught the CPU, or subsystem controller, provides control for the subsystem. In the case of Sudo the subsystem being controlled by the subsystem controller, or the CPU, is an LCD, Figure 4, element 5. Therefore this argument is moot.

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15. On the fourth page of the remarks, Applicant argues in essence:

"Please note that claim 1 clear claims a subsystem controller that is a separate and distinct entity from a system processor, and please note further that claim 1 is consonant with the definition of a subsystem controller provided in the current application... "The term "subsystem controller" generally refers to a subcomponent of a more complex electronic system, such as a computer, that comprises logic circuits, a programmable logic device, and a general-purpose micro-controller that executes a number of software routines. A subsystem controller is generally dedicated to one of a small number of specific control tasks. For example, the control of LED and LCD display devices incorporated in a front panel display of a computer system is generally carried out by one or more subsystem controllers. Use of subsystem controllers may offload computationally intensive and time-intensive tasks from the main processor or processors of computer systems, and may significantly decrease data traffic on critical busses of the computer system. ""

However, Claimed subject matter, not the specification, is the measure of invention.

Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11,15 (CCPA 1978). In this case, the lengthy definition is not present within the claim language. The lengthy definition is not being read into the claim language because doing so would be improper. Therefore this argument is moot.

16. On the fifth page of the remarks, Applicant argues with regard to Que and Page in essence:

"Que does not suggest including either RAM or ROM within Page's processor, or within any kind of integrated circuit that includes functionality other than memory."

However, the fact that Que may not have specifically taught including either RAM or ROM specifically within Page's processor is irrelevant. Que has in fact taught utilizing ROM in place of the random-access memory (RAM) to store executable code to be run on the micro-controller would have allowed for the system to retain such code in the system power-off state and load the code immediately upon a change to power-up (Que

page 416). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize read-only memory, or ROM, to store executable code for execution by the micro-controller as taught by Que instead of the random-access memory, or RAM, of Wirthlin, in order to ensure immediate loading of the code upon system power-up. Therefore this argument is moot.

17. On the sixth page of the remarks, Applicant argues with regard to Huffener in essence:

“A logic circuit that includes a discrete “8-bit single chip microcontroller” to which other components interface is - by the above definition, and by the definition of anyone remotely familiar with computer system and electronics – not a single integrate circuit. ... Huffener’s device is not a subsystem controller as clearly defined in the current Application.”

While Applicant may be correct in the characterization above of what an integrated circuit is not, however, Applicant appears to be arguing in exact contradiction to the language of the claims. In claim 1, Applicant has claimed “an additional electronic interface to a device or subsystem controlled by the subsystem controller” claim 5 further limits with the following “wherein the additional electronic interface is an 8-bit input/output bus and additional signal lines.” This is precisely what Huffener has disclosed. Huffener has taught an integrated circuit, Figure 12, element 85, comprising an additional electronic interface that is an 8-bit input/output bus and additional signal lines (Column 10, lines 54-57, Figure 12, Elements P1.0-P1.7 comprise the 8-bit input/output bus, and P3.4 and P3.5 are the additional signal lines, all of which comprise the additional electronic interface to the external LCD-Display, element 92, or subsystem as claimed.) Therefore this argument is moot.

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18. On the sixth and seventh page of the remarks, Applicant argues with regard to Page in essence:

"Page discloses combining a processor and a dynamically programmable gate array within a single integrated circuit. Page is, however, clearly concerned with implementing CPUs, not subsystem controllers. ...Subsystem controllers do not run applications, and certainly do not run any application. Page is clearly proposing a type of general purpose CPU – not a subsystem controller."

However, Page is cited for having taught the concept of combining elements on the same chip to speed up communication and reduce the number of parts (Page, pages 6 and 7, Section 6 entitled "Combining Processor and DPGA on the Same Chip"). Therefore the fact that Page may not have taught a subsystem controller is irrelevant.

Furthermore, claimed subject matter, not the specification, is the measure of invention.

Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11,15 (CCPA 1978). In this case "subsystem controllers that do not run applications" does not appear in the claims. Therefore this argument is moot.

19. On the seventh and eighth page of the remarks, Applicant argues with regard to Page and Que in essence:

"Nowhere in Page is there a mention or suggestion of incorporating "read-only memory that stores executable code for execution by the micro-controller," "a bus interface for exchanging data and control signals between the subsystem controller and system processing components," and "and additional electronic interface to a device or subsystem controlled by the subsystem controller." A read-only memory is not contemplated by Page, because Page's disclosed processor is not a subsystem controller, "dedicated to one or a small number of specific control tasks," but is instead a general purpose CPU, intended to be included in a larger system with discrete components for storing bootstrap code, as described by Que. A subsystem controller, by contrast, uses a "read-only memory that stores executable code," both because a subsystem controller generally configures itself, rather than loading programs from disk into memory, and

because, since it is highly specialized, the relatively few software routines needed for control of a subsystem controller can fit within a ROM. By contrast, the software applications and operating systems run by a general purpose CPU cannot possibly fit within ROM – at least – a commercially feasible ROM.”

However, Examiner is unsure to exactly where in the prior Office Action Applicant is responding. It appears that Applicant is responding to page 6, paragraph 5, in the prior Office Action. Examiner notes that a typo is present in that paragraph in the Office Action. In the last sentence of the paragraph “Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize read-only memory, or ROM, to store executable code for execution by the micro-controller as taught by Que instead of the random-access memory, or RAM, of page, in order to ensure immediate loading of the code upon system power-up”, should have read “Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize read-only memory, or ROM, to store executable code for execution by the micro-controller as taught by Que instead of the random-access memory, or RAM, on page 6, Figure 7 of Wirthlin, in order to ensure immediate loading of the code upon system power-up.”

Furthermore, Que supports utilizing ROM in place of the random-access memory (RAM) to store executable code to be run on the micro-controller would have allowed for the system to retain such code in the system power-off state and load the code immediately upon a change to power-up (Que page 416). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize read-only memory, or ROM, to store executable code for execution by the micro-controller as

taught by Que instead of the random-access memory, or RAM, on page 6, Figure 7 of Wirthlin, in order to ensure immediate loading of the code upon system power-up.

Also, the long definition that Applicant has in the specification for a subsystem controller appears nowhere in the claims. Claimed subject matter, not the specification, is the measure of invention. Limitations in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Self*, 213 USPQ 1,5 (CCPA 1982); *In re Priest*, 199 USPQ 11,15 (CCPA 1978). Therefore this argument is moot.

20. On the ninth page of the remarks, Applicant argues in essence:

"Had a single-IC implementation of a subsystem controller been obvious in view of the cited references, it would nothing short of astonishing that, by October 1999, in an extremely competitive, subsystem-controller commodity market, not one such implementation was available, produced, prototyped, described, or proposed. Applicants believe that without a clear showing of an explicit or implicit suggestion for a single-IC implementation of a subsystem controller, containing the claimed subsystem-controller elements, an obvious-type rejection is not sustainable."

Applicant appears to be stating that the claimed subject matter solved a problem that was long standing in the art. However, there is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04, For Applicants reference Examiner has included the contents of the section below.

LONG-FELT NEED IS MEASURED FROM THE DATE A PROBLEM IS IDENTIFIED AND EFFORTS ARE MADE TO SOLVE IT

Long-felt need is analyzed as of the date the problem is identified and articulated, and there is evidence of efforts to solve that problem, not as of the date of the most pertinent

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prior art references. *Texas Instruments Inc. v. Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993).

OTHER FACTORS CONTRIBUTING TO THE PRESENCE OF A LONG-FELT NEED MUST BE CONSIDERED

The failure to solve a long-felt need may be due to factors such as lack of interest or lack of appreciation of an invention's potential or marketability rather than want of technical know-how. *Scully Signal Co. v. Electronics Corp. of America*, 570 F.2d 355, 196 USPQ 657 (1st. Cir. 1977). See also *Environmental Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 698, 218 USPQ 865, 869 (Fed. Cir. 1983) (presence of legislative regulations for controlling sulfur dioxide emissions did not militate against existence of long-felt need to reduce the sulfur content in the air); *In re Tiffin*, 443 F.2d 344, 170 USPQ 88 (CCPA 1971) (fact that affidavit supporting contention of fulfillment of a long-felt need was sworn by a licensee adds to the weight to be accorded the affidavit, as long as there is a bona fide licensing agreement entered into at arm's length).

Conclusion

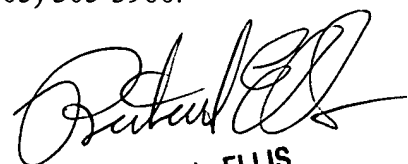
21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
22. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L Meonske whose telephone number is (703) 305-3993. The examiner can normally be reached on Monday-Friday, 7:00-4:30, with every other Friday off.

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24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie P Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

25. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

tlm



RICHARD L. ELLIS
PRIMARY EXAMINER